

34
COST
31. (New) The unshielded data cable of claim ²~~20~~, wherein the plurality of fins position the plurality of twisted pairs in a substantially 90° relationship.

REMARKS

In response to the Office Action mailed July 5, 2001, Applicants respectfully request reconsideration. Claims 1-27 were pending. Claims 1-18 have been deleted. Claims 28-31 have been added. Claims 19 - 31 are now pending in the application, of which claim 19 is an independent claim. The claims as presented are in allowable condition.

Objection to the Drawings

The Office Action objected to the drawings under 37 C.F.R. 1.83(a) for failing to show every feature of the invention specified in the claims. Drawing sheet 3/3 has been introduced to include new Figs. 5 and 6. Drawing sheets 1/2 and 2/2 have been renumbered as sheets 1/3 and 2/3 respectively.

Fig. 5 illustrates the claimed fiber optic element 501. Support for this element can be found in the specification on page 4, line 31. No new matter has been added. Approval and entry of this figure is respectfully requested.

Fig. 6 illustrates the claimed drain wire element 601. Support for this element can be found in the specification on page 5, line 31. No new matter has been added. Approval and entry of this figure is respectfully requested.

Objection to the Specification

The Office Action objected to reference numeral 205 being used on page 5 to refer to both the "jacket" and the "conductive shield," and that two reference numerals 203 and 205 are used to refer to the "jacket." The specification has been amended to correct this misnumbering. Withdrawal of this objection is respectfully requested.

In addition, the specification has been amended to add a brief description of added Figs. 5 and 6, to add reference numerals 501 for the fiber optic element and 601 for the drain wire. Support for this amendment is discussed above. No new matter has been added.

A. Rejections Under 35 U.S.C. §112

Claim 11 was rejected under 35 U.S.C. §112, first paragraph for containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants have cancelled claim 11. Therefore, the rejection of claim 11 is moot. Withdrawal of this rejection is respectfully requested.

Claims 6 – 8 and 13 were rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants have cancelled claims 6 – 8 and 13. Therefore, the rejection of claims 6 – 8 and 13 is moot. Withdrawal of this rejection is respectfully requested.

B. Rejections Under 35 U.S.C. §102

Claims 1, 2, 12 – 14, and 18 were rejected under 35 U.S.C. §102(e) as being anticipated by Prudhon (U.S. Patent No. 5,952,615). Without acceding to the correctness of this rejection, Applicants have cancelled claims 1, 2, 12 – 14, and 18. Therefore, the rejection of claims 1, 2, 12 – 14, and 18 is moot. Withdrawal of this rejection is respectfully requested.

C. Rejections Under 35 U.S.C. §103

Claims 3, 5, and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Prudhon in view of Gaeris et al (U.S. Patent No. 5,789,711). Without acceding to the correctness of this rejection, Applicants have cancelled claims 3, 5, and 17. Therefore, the rejection of claims 3, 5, and 17 is moot. Withdrawal of this rejection is respectfully requested.

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Prudhon in view of Gaeris et al as applied to claim 3 above and further in view of Clark et al (U.S. Patent No. 5,821,466). Without acceding to the correctness of this rejection, Applicants have cancelled claim 4. Therefore, the rejection of claim 4 is moot. Withdrawal of this rejection is respectfully requested.

Claims 6, 8, 10, 15, and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Prudhon in view of Hawley (Condensed Chemical Dictionary). Without acceding to the correctness of this rejection, Applicants have cancelled claims 6, 8, 10, 15, and 16. Therefore, the rejection of claims 6, 8, 10, 15, and 16 is moot. Withdrawal of this rejection is respectfully requested.

Claims 7 and 9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Prudhon in view of Hawley and Sackett (U.S. Patent No. 5,313,020). Without acceding to the correctness of this rejection, Applicants have cancelled claims 7 and 9. Therefore, the rejection of claims 7 and 9 is moot. Withdrawal of this rejection is respectfully requested.

Claims 19 – 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bleich et al (U.S. Patent No. 5,576,515) in view of Prudhon (U.S. Patent No. 5,952,615). Applicants respectfully traverse this rejection.

The Office Action fails to provide any evidence of any motivation, disclosure, or suggestion in the references or in the art, to make the asserted combination of references. The Office Action is improperly using hindsight based upon Applicants' own disclosure to find motivation to make the asserted combination. This is improper. As stated by the Court of Appeals for the Federal Circuit, "[c]ombining prior art references without *evidence* of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability" and is "the essence of hindsight." [emphasis added]. See *In re Dembiczak* 175 F.3d 994, 50 U.S.P.Q.2d (BNA) 1614 (Fed. Cir. 1999). "Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'" See *Id.* The Office Action asserts that it would have been obvious to one skilled in the art to include the central core as taught by Prudhon into the cable of Bleich et al to separate the pairs from each other to reduce cross-talk among the pairs as taught by Prudhon. However, the Office Action does not point to any motivation, disclosure, or suggestion to make such a combination. Accordingly, the Examiner has not met this burden. The Examiner is respectfully requested to point to some disclosure or suggestion in the art, other than Applicants' own disclosure, to support the asserted motivation, or withdraw the rejection of claims 19 – 22 based thereon.

Bleich et al discloses a fire retardant, low pair count, high performance, TIA/EIA 568 Category 5 plenum rated cable made up of a plurality of twisted pairs of conductors. Bleich et al further discloses that the core is surrounded and enclosed in a fire retardant jacket. Bleich et al discloses that “[t]he present invention is a TIA/EIA Category 5 four pair UL CMP plenum rated cable which overcomes at least some of the aforementioned problems typical of prior art cables,” such as a lack of fire-retardant cable materials that possess qualities such as low transmission loss, cost-effectiveness and low structural return loss. Nowhere does Bleich et al disclose or suggest a way to reduce cross-talk among the twisted pairs of conductors.

Prudhon discloses that a plurality of individually insulated conductor pairs 1 – 4 “are individually shielded by a rod 10 with radial fins 11 which separate the pairs and partially shield each pair and by a peripheral shield 13 surrounding the rod 10 and the set of pairs in place therein and completing the shielding of each pair” (col. 2, lines 54 – 58). Prudhon discloses a way to reduce cross-talk among the pairs in a shielded cable. However, Prudhon does not disclose or suggest reducing cross-talk among the pairs in an unshielded cable.

Applicants’ claim 19 recites an unshielded data cable comprising a plurality of twisted pairs of conductors. The unshielded data cable of claim 19 further comprises a central core having a surface that defines a plurality of channels within which the plurality of twisted pairs of conductors are individually disposed, and an outer jacket that maintains the plurality of twisted pairs of conductors in position with respect to the central core, the outer jacket being formed of a non-conductive material. Claim 19 further discloses that the unshielded data cable does not include a shield that encloses any of the plurality of conductors and the central core.

There is no teaching or suggestion to combine Bleich et al and Prudhon as suggested by the Office Action. In the Office Action, page 9, section 15, the Examiner states that “[i]t would have been obvious to one skilled in the art to include the central core as taught by Prudhon into the cable of Bleich et al to separate the pairs from each other to reduce cross-talk among the pairs as taught by Prudhon.” Applicants respectfully disagree. The only support for such a combination is Applicant’s own specification. Using Applicant’s specification as the blueprint to support a combination is improper hindsight. Absent Applicants’ disclosure, one of skill in the art would not have been motivated to reduce the cross-talk in the unshielded cable of Bleich et al, because unshielded cables were not used in applications where cross-talk was a concern.

Instead, shield cables such as disclosed in Prudhon were used. Thus, one of skill in the art would not have been motivated to incorporate the central core from a shielded cable into the unshielded cable as disclosed by Applicants, and as claimed in independent claim 19.

Accordingly, the rejections of independent claim 19 should be withdrawn.

Claims 20-22 depend either directly, or indirectly from independent claim 19, and therefore are not obvious in view of the asserted combination of references for the same reasons as independent claim 19. Claims 23 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bleich et al in view of Prudhon as applied to claim 19, and further in view of Hawley. Claims 23 and 24 depend, either directly or indirectly, from independent claim 19, and are not obvious in view of the asserted combination of references for at least the same reasons as independent claim 19.

Claims 25 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bleich et al in view of Prudhon as applied to claim 19, and further in view of Gaeris et al. Claims 25 and 27 depend, either directly or indirectly, from independent claim 19, and are not obvious in view of the asserted combination of references for at least the same reasons as independent claim 19.

Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bleich et al in view of Prudhon and Gaeris et al as applied to claim 19, and further in view of Clark et al (U.S. Patent No. 5,821,466). Claim 26 depends, either directly or indirectly, from independent claim 19, and is not obvious in view of the asserted combination of references for at least the same reasons as independent claim 19.

In addition, Clark et al (U.S. Patent No. 5,821,466) was filed on December 23, 1996 and was granted on October 23, 1998. The assignee of Clark et al (U.S. Patent No. 5,821,466) is Cable Design Technologies, Inc. The present application is a continuation of Serial No. 08/841,440 which was filed on April 22, 1997, and is also assigned to Cable Design Technologies, Inc. Therefore, Clark et al (U.S. Patent No. 5,821,466) is if anything, prior art under 35 U.S.C. §102(e). However, under 35 U.S.C. §103(c) a reference that qualifies as prior art only under 35 U.S.C. §102(e), should not preclude patentability under §103, where the reference and claimed invention were owned by or subject to an obligation of assignment to the

same entity. Therefore, Clark et al cannot be used in the asserted combination against this application.

D. Newly Added Claims

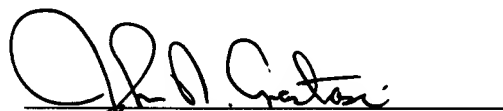
Claims 28 – 31 depend directly or indirectly from claim 19, and are therefore allowable for at least the same reasons.

E. Conclusion

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No.: 23/2825.

Respectfully submitted,
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MARKED UP SPECIFICATION

Please replace the paragraph beginning at line 8 of page 4 as shown:

In the drawings, in which like reference numerals designate like elements:

Fig. 1 is a cross-sectional view of a cable core used in embodiments of the invention;

Fig. 2 is a cross-sectional view of one embodiment of a cable including the core of Fig. 1;

Fig. 3 is a cross-sectional view of another embodiment of a cable including the core of Fig. 1; [and]

Fig. 4 is a perspective view of a die system for practicing a method of making a cable in accordance with another embodiment of the invention[.];

Fig. 5 is a cross-sectional view of another embodiment of a cable core used in some embodiments of the cable of the invention; and

Fig. 6 is a cross-sectional view of another embodiment of a cable core used in some embodiments of the cable of the invention.

Please replace the paragraph beginning at line 24 of page 4 as shown:

This illustrative embodiment of the invention, as shown in Fig. 1, includes an extruded core 101 having a profile described below cabled into the cable with four twisted pairs 103. The extruded core profile has an initial shape of a "+", providing four spaces or channels 105 between each pair of fins of the core. Each channel 105 carries one twisted pair 103 placed within the channel 105 during the cabling operation. The illustrated core 101 and profile should not be considered limiting. The core 101 may be made by some other process than extrusion and may have a different initial shape or number of channels 105. For example, as illustrated in figure 5, there may be an optional central channel 107 provided to carry a fiber optic element 501.

Please replace the paragraph beginning at line 19 of page 5 as shown:

The cable may be finished in any one of several conventional ways, as shown in Fig. 2. The combined core 101 and twisted pairs 103 may be optionally wrapped with a dielectric tape 201, then jacketed [205] 203 to form cable 200. An overall conductive shield 205 can optionally be applied over the cable before jacketing to prevent the cable from causing or receiving

electromagnetic interference. The jacket 203 may be PVC or another material as discussed above in relation to the core 101. The dielectric tape 201 may be polyester, or another compound generally compatible with data communications cable applications, including any applicable fire safety standards.

Please replace the paragraph beginning at line 27 of page 5 as shown:

Greater cross-talk isolation is achieved in the construction of Fig. 3, by using a conductive shield 301, for example a metal braid, a solid metal foil shield or a conductive plastic layer in contact with the ends of the fins 303 of the core 101. Such a construction rivals individual shielding of twisted pairs for cross-talk isolation. This construction optionally can advantageously include a drain wire 601 in a central channel 107, as illustrated in Fig. 6. In the constructions of both Figs. 2 and 3 it is advantageous to have the fins 303 of the core 101 extend somewhat beyond a boundary defined by the outer dimension of the twisted pairs 103. In the construction of Fig. 2 this ensures that the twisted pairs 103 do not escape their respective channels 105 prior to the cable being jacketed, while in that of Fig. 3 and good contact between the fins 303 and the shield 301 is ensured. In both constructions, closing and jacketing the cable may bend the tips of the fins 303 over slightly, as shown in the core material is relatively soft, such as PVC.